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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,293	12/03/2001	William B. Priester	56922.US	2709
408	7590	03/31/2004	EXAMINER	
LUEDEKA, NEELY & GRAHAM, P.C. P O BOX 1871 KNOXVILLE, TN 37901			FOREMAN, JONATHAN M	
		ART UNIT	PAPER NUMBER	3
		3736		

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/008,293	PRIESTER ET AL.
	Examiner	Art Unit
	Jonathan ML Foreman	3736

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 15-20 is/are allowed.
- 6) Claim(s) 1,2 and 8-13 is/are rejected.
- 7) Claim(s) 3-7 and 14 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed 2/14/03 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been placed in the application file, and the information referred to therein has been considered by the examiner as to the merits.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8 – 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,792,077 to Gomes in view of U.S. Patent No. 5,324,038 to Sasser and U.S. Patent No. 4,667,685 to Fine.

In regards to claims 1, 8 – 9, 11 and 12, Gomes discloses a joint angle identification system (Figure 1) including a first arm member (12) having a proximal and distal end for attachment to a first body part; a second arm member (14) for attachment to a second body part, the second arm having a proximal end and a distal end, the distal end of the second arm member is pivotally coupled to the proximal end of the first arm member (Col. 3, lines 40 – 55); a joint angle variation sensor for providing at least one electrical characteristic which varies based on variation in a joint angle of the first arm member relative to the second arm member (Col. 3, line 56 – Col. 4, line 10), where the joint angle is variable over an angular range which includes a first and second angle; a biofeedback circuit operable to generate a first feedback audio signal when the electrical characteristic indicates

the joint angle is less than or equal to the first angle, operable to generate a second feedback audio signal when the electrical characteristic indicates the joint angle being less than the second angle greater than the first angle (Col. 9, line 60 – Col. 10, line 25). However, Gomes fails to disclose the first and second feedback signals being aurally different from each other. Nor does Gomes disclose an angle display circuit for visually displaying a joint angle value. Sasser discloses a joint angle identification system having a biofeedback circuit operable to generate a first feedback audio signal when the electrical characteristic indicates the joint angle is less than or equal to the first angle, operable to generate a second feedback audio signal when the electrical characteristic indicates the joint angle being less than the second angle greater than the first angle, where the first and second feedback signals are aurally different (Col. 11, lines 23 – 54). The first signal has a first audio frequency and the second signal has a higher second audio frequency. Sasser discloses an audio output circuit for generating an audio angle indication signal having a frequency which varies in relation to a variation in the electrical characteristic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as disclosed by Gomes to include an audio output circuit and first and second feedback signals that are aurally different as taught by Sasser in order to indicate to the user the direction in which he/she traveled outside of the allowed range (Col. 8, lines 95 – 68). Fine discloses a joint angle identification system including an angle display circuit for visually displaying a joint angle value based on the electrical characteristic (Col. 5, line 62 – Col. 6, line 3). It would have been obvious to one having ordinary skill in the art to modify the system as disclosed by Gomes to include an angle display circuit as taught by Fine in order to allow the user to set a target and then monitor progress toward achieving the target angular displacement (Col. 7, lines 33 – 37).

3. Claims 1 and 8 -12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,754,121 to Ward et al. in view of U.S. Patent No. 5,324,038 to Sasser and U.S. Patent No. 4,667,685 to Fine.

In regards to claims 1 and 8 – 12 Ward et al. discloses a joint angle identification system (10) including a first arm member (19) having a proximal and distal end for attachment to a first body part; a second arm member (20) for attachment to a second body part, the second arm having a proximal end and a distal end, the distal end of the second am member is pivotally coupled to the proximal end of the first arm member; a joint angle variation sensor (22) for providing at least one electrical characteristic which varies based on variation in a joint angle of the first arm member relative to the second arm member (Col. 6, lines 46 – 52), where the joint angel is variable over an angular range which includes a first and second angle; a biofeedback circuit operable to generate a first feedback audio signal using a buzzer (Col. 9, lines 11 – 13) when the electrical characteristic indicates the joint angle is less than or equal to the first angle, operable to generate a second feedback audio signal using a buzzer when the electrical characteristic indicates the joint angle being less than the second angle greater than the first angle (Col. 5, lines 50 – 60; Col. 9, lines 58 – 64). However, Ward et al. fails to disclose the first and second feedback signals being aurally different from each other. Nor does Ward et al. disclose an angle display circuit for visually displaying a joint angle value. Sasser discloses a joint angle identification system having a biofeedback circuit operable to generate a first feedback audio signal when the electrical characteristic indicates the joint angle is less than or equal to the first angle, operable to generate a second feedback audio signal when the electrical characteristic indicates the joint angle being less than the second angle greater than the first angle, where the first and second feedback signals are aurally different (Col. 11, lines 23 – 54). The first signal as a first audio frequency and the second signal has a higher second audio frequency.

Sasser discloses an audio output circuit for generating an audio angle indication signal having a frequency which varies in relation to a variation in the electrical characteristic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as disclosed by Ward et al. to include an audio output circuit and first and second feedback signals that are aurally different as taught by Sasser in order to indicate to the user the direction in which he/she traveled outside of the allowed range (Col. 8, lines 95 – 68). Fine discloses a joint angle identification system including an angle display circuit for visually displaying a joint angle value based on the electrical characteristic (Col. 5, line 62 – Col. 6, line 3). It would have been obvious to one having ordinary skill in the art to modify the system as disclosed by Ward et al. to include an angle display circuit as taught by Fine in order to allow the user to set a target and then monitor progress toward achieving the target angular displacement (Col. 7, lines 33 – 37).

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,754,121 to Ward et al. in view of U.S. Patent No. 5,324,038 to Sasser and U.S. Patent No. 4,667,685 to Fine as applied to claim 12 above, and further in view of U.S. Patent Application Publication No. 2003/0088196 to Steve.

In regards to claim 13, Ward et al. in view of Sasser and Fine disclose a programmable feedback system but fail to disclose including a microphone. Steve discloses a programmable feedback system having a microphone [0027]. It would have been obvious to one having ordinary skill in the art to modify the system as disclosed by Ward et al. in view of Sasser and Fine to include a microphone as taught by Steve so voice activation can be used to set up the device [0027].

#### *Allowable Subject Matter*

5. Claims 15 – 20 are allowed. In regards to claim 15, no prior art teaches or suggests in combination a system as claimed including a first arm member with a first and second prong

portion; a second arm member; a first potentiometer disposed between the second arm member and the first prong of the first member; and a second potentiometer disposed between the second arm member and the first prong member. In regards to claim 16, no prior art teaches or fairly suggests as system as claimed by Applicant including the claimed limitation of the audio recording device. In reference to claim 17, no prior art teaches or suggests a method including generating an audio indication signal; generating an audio annotation signal; recording the audio angle indication signal on a first channel and recording the audio annotation signal on a second channel; accessing the above signals; operating on the audio angle signal to derive a joint angle; displaying a joint angle; and providing an audible rendition of the audio annotation signal. Claims 3 – 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 6,032,530 to Hock and U.S. Patent No. 6,428,490 to Kramer et al. show the general state of the art of joint measurement systems including feedback to the user.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan ML Foreman whose telephone number is (703) 305-5390. The examiner can normally be reached on Monday - Friday 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mary Beth Jones can be reached on (703) 308-3400. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

JMLF  
March 22, 2004

*Mary Petras*  
*Acting SPE*  
*Art Unit 3736*